

40+ Important Simplification Questions with Easy Tricks (Solutions)

S1. Ans.(d)

Sol. $441 - 63 = ? \times 8$

$? = 47.25$

S2. Ans.(e)

Sol. $\frac{23}{16} = ? - \frac{7}{64}$

$? = \frac{23}{16} + \frac{7}{64} = \frac{92+7}{64}$

$? = \frac{99}{64} = 1\frac{35}{64}$

S3. Ans.(d)

Sol. $5.76 \times 10^{-7} \div (0.000048) = 0.012$

S4. Ans.(c)

Sol. $\left(\frac{58}{7} \times 1568\right) + 265.75 - 2455.6 = ?$

$? = 13257.75 - 2455.6$

$? = 10802.15$

S5. Ans.(e)

Sol. $(1.1)^2 - (4.24 \times 0.04) = ?$

Or, $? = 1.0404$

S6. Ans.(b)

Sol. $(16)^{\frac{1}{2}} + (36)^2 = (?)^2 + 459$

or, $(?)^2 = 1296 + 4 - 459 = 841$

or, $? = \pm 29$

S7. Ans.(d)

Sol. $? = \frac{44}{10} \times \frac{5}{16} \times \frac{30}{100} \times 216 = 89.1$

S8. Ans.(e)

Sol. $(1.1)^2 - (4.24 \times 0.04) = ?$

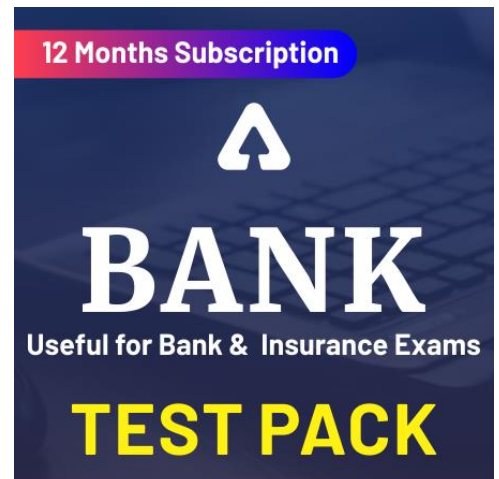
$? = 1.0404$

S9. Ans.(e)

Sol. $\frac{(0.538+0.462) \times (0.538-0.462)}{0.076} = ?$

$\frac{1 \times 0.076}{0.076} = ?$

$? = 1$



S10. Ans.(a)

$$\text{Sol. } ?^3 = \frac{729 \times 6}{9} + 343 + 72 + 431 = 1331$$

$$\text{or, } ? = 11$$

S11. Ans.(b)

$$\text{Sol. } ? = 326 \times 14 - 12 \times 88 + (49)^2$$

$$= 4564 - 1056 + 2401$$

$$= 6965 - 1056 = 5909$$

S12. Ans.(c)

$$\text{Sol. } \frac{45}{7} \times 266 + 630 = 7985 - ? - 5200$$

$$\text{or, } 1710 + 630 = 7985 - ? - 5200$$

$$\therefore ? = 2785 - 2340 = 445$$

S13. Ans.(b)

$$\text{Sol. } 124\sqrt{?} + 876 = \frac{3}{4} \text{ of } 840 + 742$$

$$\text{or } 124\sqrt{?} + 876 = 630 + 742$$

$$\text{or } 124\sqrt{?} = 1372 - 876$$

$$\text{or, } \sqrt{?} = \frac{496}{124} = 4$$

$$\therefore ? = 4^2 = 16$$

S14. Ans.(e)

$$\text{Sol. } 70\% \text{ of } 1680 + \frac{?}{100} \text{ of } 1750$$

$$= 55\% \text{ of } 2820 - 886$$

$$\text{or, } \frac{70}{100} \times 1680 + \frac{?}{100} \times 1750 = \frac{55}{100} \times 2820 - 886$$

$$\text{or, } 1176 + 17.5 \times ? = 1551 - 886 = 665$$

$$\text{or, } 17.5 \times ? = 665 - 1176$$

$$\therefore ? = \frac{-511}{17.5} = -29.2$$

S15. Ans.(c)

$$\text{Sol. } 6^3 \times 3^4 \div 9^3 + (?)^2 = 7^2$$

$$\text{or, } 216 \times \frac{81}{729} + (?)^2 = 7^2$$

$$\text{or, } 24 + (?)^2 = 7^2$$

$$\text{or, } (?)^2 = 49 - 24 = 25$$

$$? = \sqrt{25} = 5$$

S16. Ans.(d)

$$\text{Sol. } (0.5)^9 \div (0.5)^4 \times (0.5)^2 = (0.5)^{?-3}$$

$$\text{or, } 9 - 4 + 2 = ? - 3$$

$$\text{or, } ? = 10$$

S17. Ans.(b)

Sol. $? = 151.2 - 196 + 94$

or, $? = 49.2$

S18. Ans.(e)

Sol. $? = 540 - 56 \times 7$

or, $? = 148$

S19. Ans.(b)

Sol. $? = \frac{4656}{145.5} = 32$

S20. Ans.(e)

Sol. $\sqrt{?} = 7437.16 - 7365 - 29.16 = 43$

or, $? = 1849$

S21. Ans.(b)

Sol. $? = \frac{13}{5} \times \frac{40}{13} \times 19 - \frac{40}{100} \times 330$

$= 152 - 132$

$= 20$

S22. Ans.(c)

Sol. $\sqrt{\sqrt{9216} + \sqrt{5329}} = ?^2 - 12$

$\sqrt{96 + 73} = ?^2 - 12$

$?^2 = 25$

So, $? = 5$

S23. Ans.(e)

Sol. $2\frac{1}{19} \times 5\frac{3}{7} \div 1\frac{6}{7} - 2\frac{1}{2} = ? - 3\frac{1}{2}$

$? = \frac{39}{19} \times \frac{38}{7} \times \frac{7}{13} - \frac{5}{2} + \frac{7}{2}$

$? = 7$

S24. Ans.(a)

Sol. $61\% \text{ of } 400 - 15\% \text{ of } 180 - ? = 98$

$\frac{61}{100} \times 400 - \frac{15}{100} \times 180 - ? = 98$

$? = 119$

S25. Ans.(e)

Sol. $\sqrt[3]{4913} \div \sqrt[2]{2197} \times \sqrt{676} = ?$

$= 17 \div 13 \times 26 = ?$

$= \frac{17}{13} \times 26 = ?$

So, $? = 34$



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S26. Ans.(e)

Sol.

$$\begin{aligned} ? &= 24\% \text{ of } 6700 + 47\% \text{ of } 8500 \\ &= \frac{24}{100} \times 6700 + \frac{47}{100} \times 8500 \\ &= 24 \times 67 + 47 \times 85 \\ &= 1608 + 3995 = 5603 \end{aligned}$$

S27. Ans.(c)

Sol.

$$\begin{aligned} ? &\approx \frac{28 \times 550}{100} - \frac{80 \times 390}{100} + \frac{13 \times 210}{15} \\ ? &= 154 - 312 + 182 \\ ? &= 24 \end{aligned}$$

S28. Ans.(a)

Sol.

$$\begin{aligned} ? &= 1200 \div 15 \times 25 + 437 \\ ? &= \frac{1200}{15} \times 25 + 437 \\ ? &= 2000 + 437 \\ ? &= 2437 \end{aligned}$$

S29. Ans.(d)

Sol. $30\% \text{ of } 510 + 35\% \text{ of } 850 - 34\% \text{ of } 850 = ?$

$$\begin{aligned} ? &= \frac{30 \times 510}{100} + \frac{35 \times 850}{100} - \frac{34 \times 850}{100} \\ ? &= 153 + 297.5 - 289 \\ ? &= 161.5 \end{aligned}$$

S30. Ans.(d)

Sol. $(14)^3 - (7)^2 + (6)^3 = ?$

$$\begin{aligned} ? &= 2744 - 49 + 216 \\ ? &= 2911 \end{aligned}$$

S31. Ans.(b)

Sol. $23.8 + 13.2 = 37$

S32. Ans.(a)

Sol. $81.2 + 52.2 = 133.4$

S33. Ans.(a)

Sol. $26 + 16 = 42$

S34. Ans.(c)

Sol. $149834 - 85973 = 63861$

S35. Ans.(a)

Sol. $66.6 + 99.9 = 166.5$

S36. Ans.(d)

Sol. $30\% \text{ of } 190 + 16\frac{2}{3}\% \text{ of } 216 - 3 = ? \times 9$

$\frac{30}{100} \times 190 + \frac{100}{600} \times 216 - 3 = ? \times 9$

$57 + 36 - 3 = ? \times 9$

$? = 10$

S37. Ans.(a)

Sol. $14\frac{2}{7}\% \text{ of } 91 + 9.09\% \text{ of } 198 - ? = 30$

$\frac{100}{7 \times 100} \text{ of } 91 + \frac{9.09}{100} \text{ of } 198 - ? = 30$

$\frac{1}{7} \times 91 + \frac{1}{11} \times 198 - ? = 30$

$13 + 18 - ? = 30$

$? = 1$

S38. Ans.(b)

Sol. $\frac{\sqrt[3]{1728} \times \sqrt[2]{1.21} \times \sqrt[2]{49}}{\sqrt[3]{1331} \times \sqrt[3]{0.343} \times \sqrt[2]{1.44}} = ?$
 $= \frac{12 \times 1.1 \times 7}{11 \times 0.7 \times 1.2}$
 $= 10$

S39. Ans.(e)

Sol. $\frac{27^9 \times 32^5 \times 9^{27} \times 81^5}{2^{20} \times 6^5 \times 243^5} = 3^?$

$3^? = \frac{(3^3)^9 \times (2^5)^5 \times (3^2)^{27} \times (3^4)^5}{2^{20} \times 2^5 \times 3^5 \times (3^5)^5}$

$3^? = \frac{3^{27} \times 2^{25} \times 3^{54} \times 3^{20}}{2^{20} \times 2^5 \times 3^5 \times 3^{25}}$

$3^? = 3^{71}$

So, $? = 71$

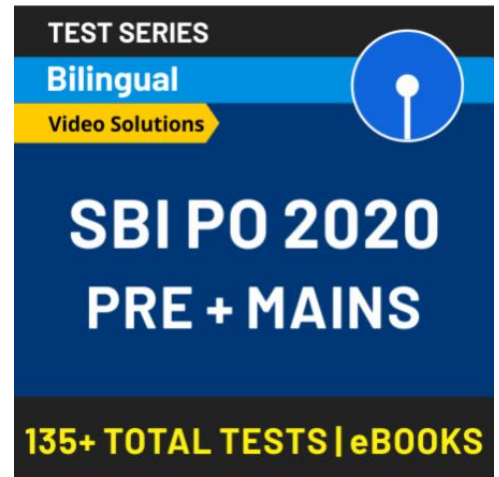
S40. Ans.(c)

Sol. $50\% \text{ of } \sqrt{1.69} + 16.66\% \text{ of } \sqrt{9216} - ? = \sqrt[8]{(256)^4}$

$\frac{50}{100} \times 1.3 + 16\frac{2}{3}\% \times 96 - ? = (256)^{4/8}$

$0.65 + 16 - ? = 16$

$? = 0.65$



S41. Ans.(b)**Sol.** 15% of 1500 + 22% of 1100 – 13% of 1500 = ?

$$\begin{aligned} & \frac{15}{100} \times 1500 + \frac{22}{100} \times 1100 - \frac{13}{100} \times 1500 \\ &= 225 + 242 - 195 \\ &= 272 \end{aligned}$$

S42. Ans.(b)**Sol.** $\sqrt{\sqrt{6400} + \sqrt{1681}} = ?^2 - 5$

$$\sqrt{80 + 41} = ?^2 - 5$$

$$?^2 = 16$$

$$? = \pm 4$$

$$\text{So, } ? = 4$$

S43. Ans.(d)**Sol.**

$$2\frac{1}{17} \times 4\frac{6}{7} \div 3\frac{1}{3} - 2\frac{1}{2} = ? - 3\frac{1}{2}$$

$$? = \frac{35}{17} \times \frac{34}{7} \times \frac{3}{10} - \frac{5}{2} + \frac{7}{2}$$

$$? = 4$$

S44. Ans.(a)**Sol.**

$$37\% \text{ of } 400 - 17\% \text{ of } 180 - ? = 5\frac{2}{5}$$

$$\frac{37}{100} \times 400 - \frac{17}{100} \times 180 - ? = \frac{27}{5}$$

$$? = 112$$

S45. Ans.(c)**Sol.** $\sqrt[3]{1331} \div \sqrt[2]{2401} \times \sqrt[3]{343} = \frac{?}{7}$

$$= 11 \div 49 \times 7 = \frac{?}{7}$$

$$= \frac{11}{49} \times 7 = \frac{?}{7}$$

$$\text{So, } ? = 11$$

S46. Ans.(b)**Sol.**

$$? = \frac{11}{3} \times \frac{24}{11} \times 130 - \frac{40}{100} \times 350$$

$$= 1040 - 140$$

$$= 900$$



S47. Ans.(c)

Sol.

$$\begin{aligned} ? &= 23 \times 6 + 33 \times 8 - 53 \times 4 \\ &= 138 + 264 - 212 \\ &= 190 \end{aligned}$$

S48. Ans.(d)

Sol.

$$\begin{aligned} ? &= (2 + 4 - 3 + 3) + \left(\frac{1}{2} + \frac{3}{4} - \frac{2}{3} + \frac{5}{6} \right) \\ &= 6 + \frac{17}{12} \\ &= 7 \frac{5}{12} \end{aligned}$$

S49. Ans.(c)

Sol. 4.8% of 6000 + 3.3% of 5000 - 2.1% of ? = 432

$$\begin{aligned} \frac{4.8}{100} \times 6000 + \frac{3.3}{100} \times 5000 - \frac{2.1}{100} \times ? &= 432 \\ ? &= \frac{(288 + 165 - 432)}{2.1} \times 100 \\ ? &= 1000 \end{aligned}$$

S50. Ans.(d)

$$\begin{aligned} \text{Sol. } \sqrt{\sqrt{1156} + \sqrt{7569}} &=? \\ \sqrt{34 + 87} &=? \\ ? &= \sqrt{121} = 11 \end{aligned}$$

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